THE IMPACT AND PRACTICAL ASPECTS OF THE IMPLEMENTATION OF THE NEW WORKING CONDITIONS FOR RESIDENTS IN THE DEPARTMENT OF OBSTETRICS AND GYNECOLOGY AT THE ALBERT EINSTEIN COLLEGE OF MEDICINE*

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IN JULY 1989 THE DEPARTMENT OF OBSTETRICS AND GYNECOLOGY at the Albert Einstein College of Medicine made a firm commitment to implement the changes in residents' education promulgated by the Department of Health of the State of New York. These changes represented a radical departure from the traditional style of postgraduate training and formed the basis of a new approach to graduate medical education. The regulations sought to limit the clinical activities of trainees to a maximum of 80 hours per week, maximum of 24 consecutive hours, and minimum of 24 hours off every seven days. Supervision of the trainees had to be provided by attendings 24 hours a day, seven days a week, to increase the responsibility of attendings in the supervision of residents.

GENERAL PRINCIPLES

The Accreditation Council for Graduate Medical Education (ACGME) considered the recommendations that sought to restrict resident working hours and improve the supervision provided to the residents. They stated their ideal that trainees be taught in a clinical setting with least risk to patients. There must be a gradual assumption of increasing responsibility to independent responsibility by trainees under attending supervision. The ACGME restated six principles of graduate medical education: Education is the primary objective of residency training, education reflects contemporary medical practice, the quality of professional competence reflects the quality of training, continuity of care is of paramount importance to the quality of care,

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the attending physician is responsible for the quality of medical care, and education and patient care are best conducted with appropriate supervision and schedules that maximize education without producing stress, fatigue, and depression. With regard to supervision, attendings may be available, accessible, or directly present as in the operating room. Residency programs are expected to adhere closely to guidelines established by the ACGME. Programs are reviewed and accredited on the basis of demonstrable and documented adherence to these guidelines.

IMPLEMENTATION OF THE CHANGES

The Department of Obstetrics and Gynecology of the Albert Einstein College of Medicine has a single residency program. The trainees work out of two hospitals, one public and one private. The public hospital is the Bronx Municipal Hospital Center (BMHC) and the private hospital is the Jack D. Weiler Hospital of the Albert Einstein College of Medicine (WHAECOM). Together the program has been approved for a total of 24 residents, i.e., six in each of four years of training.

All residents rotate through all aspects of the programs in each of the years so that at the end of each year and on completion of the total four years of training, all the residents will have had exactly the same experience. The BMHC has approximately 3,500 deliveries per year and almost 2,000 gynecological procedures. The sister hospital (WHAECOM) has approximately 3,600 deliveries per year accompanied by approximately 2,000 gynecological procedures.

Prior to 1989 the night call and weekend schedule required that four residents be on duty in the public hospital and three residents in the private hospital at any one time. Since 1989, to comply with the number of working hours allowed under the new regulations and because residents were not permitted to work more than 24 consecutive hours, three residents are on call at any one time in the public hospital and two or three residents are on call at any one time in the private hospital. The deficit in numbers has been in part made up by attendings, physician assistants, and midwives. Attendings replaced some of the senior resident positions while physician assistants and midwives filled the spaces created by the absence of the more junior residents. As a consequence, on any one day four to five residents are not present in the hospital because on night call the previous night. This has reduced the number of residents in the ambulatory clinics of obstetrics and gynecology at both hospitals.

Consequently, continuity of care for the patients has been somewhat compromised. Continuity of care in obstetrics can be looked upon as extending over the full nine months of pregnancy. Under the new regulations it is

impossible to insure that prenatal and labor and delivery care will be by the same physician. The same applies to gynecology and in particular to immediate postoperative care not provided by the operating surgeon.

Implementation of these changes necessitated the redesign of both the regular daytime and nighttime schedules and activities. The primary objectives were: an 80-hour work week, maximum 24 consecutive hours in the hospital, attending supervision 24 hours a day, seven days a week, and maintain the educational priority.

The workable solution depended upon the introduction of a night float system in which the work week extended from Sunday through Thursday. Residents assigned to night float commenced duty at 6:00 P.M. and worked through until 8:00 A.M. the next day for five days per week, Sunday through Thursday. (Daytime clinical activities would be fulfilled by different residents working from 8 A.M. to 6 P.M. Monday through Friday.) The weekends would then be covered from the remaining pool of residents on an approximately one in four rotation. Of necessity, the schedule had to be reformulated to accommodate the existence of one night float rotation in each of the years of postgraduate training. To complement this, an attending was assigned to provide in-house consultation and supervision 24 hours a day, seven days a week. A second attending was available at home should the need arise. Under this system, the average number of hours worked per week by the residents varied from 70 hours to 76 hours, averaged over four weeks.

The figure indicates the design of the night float system of Sunday through Thursday with weekends covered from the remaining pool of residents. The example illustrated shows the activities of five residents, A, B, C, D, E. Resident A is the night float whose commitment is Sunday night through Thursday night. Resident B works only during the day time until Friday when he covers the night call as well. Saturday and Saturday night is covered by Resident C, thus enabling B to go off after having been in the hospital for 24 consecutive hours. Residents D and E are completely off for the weekend. In the second week illustrated, residents D and E provide weekend coverage, while B and C are completely off call.

FINANCIAL COST

The financial cost of implementing these changes in resident education as it pertains to the Bronx Municipal Hospital Center will be described. The Department of Obstetrics and Gynecology requested 13.5 full-time equivalents (FTE). This was to provide monetary support for new physicians, nurse practitioners, physician assistants, and midwives. The Department received

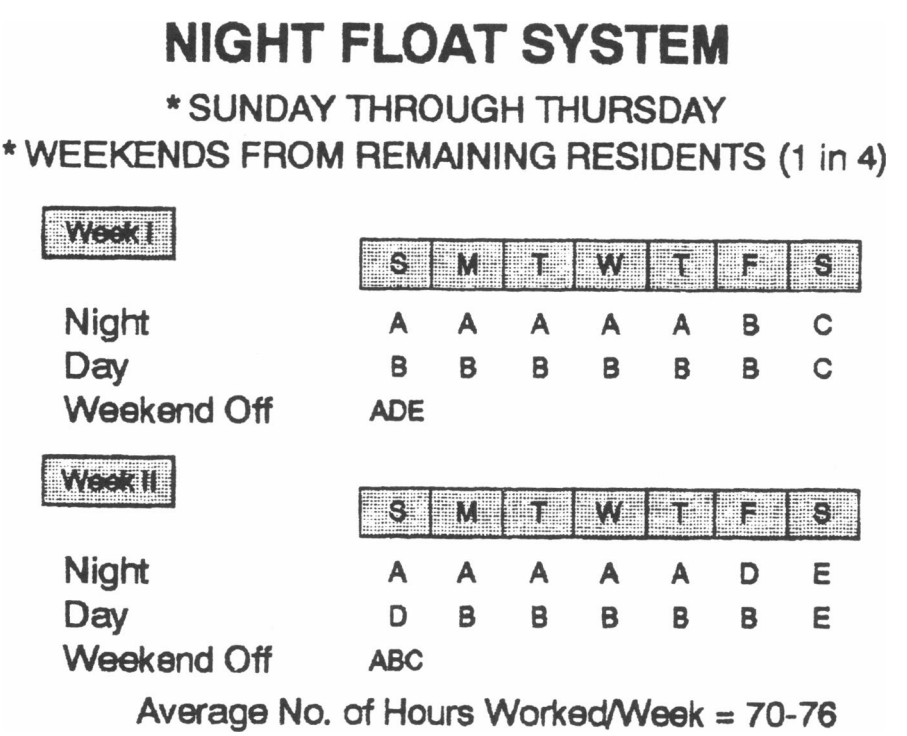

Fig. 1

only six FTEs, utilized to hire five new physicians, and increased the effort of existing physicians to the equivalent of one FTE. New physicians' assistants and midwives were also hired, but their financial support came from other sources. The parent institution also responded to the call for increasing hospital staff by funding the hiring of other physician extenders including phlebotomists, intravenous teams, and clerks. These were primarily to perform noneducational activities previously done by residents.

Impact of the Regulations on Residency Program

The implementation of the new regulations was carried out as specified with as little disruption as possible to the educational process and to the clinical services. Certain compromises were made and the Department of Obstetrics and Gynecology maintained a close and careful watch over all aspects of the educational process during and after the transitional period.

After one year we surveyed our faculty and residents to determine the impact of the new regulations on the educational experience as a whole. A

questionnaire was completed by all the residents and faculty. The questionnaire was a modified version of that previously distributed by the Council for Resident Education in Obstetrics and Gynecology. It is acknowledged that this is a very subjective analysis but provides us with the only available means of examining the effects of the changes.

Table I illustrates the responses of 30 of the faculty members. Sixty percent felt that the commitment to patient care had improved while 75% felt that the continuity and quality of patient care was improved. Most faculty members were of the opinion that the new regulations had had no impact on either the surgical expertise nor the clinical experience obtained by the residents. Supervision by the faculty vastly improved and resident attendance at conferences increased. Faculty satisfaction with the residents' performance in the program was at least unchanged if not slightly improved.

Table II describes the survey of the 18 residents' experiences. Most residents felt that their surgical and obstetrical experience was either improved or unchanged. The ambulatory care experience was thought to be impaired in more than half the responses. Interestingly, continuity of care was thought to be improved in nearly half of the residents. The quality of patient care was judged to be unchanged by the majority of people, although 28% did feel that it had improved. Approximately 90% of the residents felt that the new regulations had improved their personal lives, and their satisfaction with the program was similarly markedly improved.

THE FUTURE

Ongoing problems remain and need to be carefully monitored. Impairment of continuity of care has the potential to cause deterioration in patient care and to exert a negative impact on the educational process. Therefore it is incumbent upon us to insure that there is minimal disruption of this important function. Closely associated with this is the very important skill of communication between residents and attendings. It is essential that full hand-over rounds and sign-outs be conducted amongst all the personnel involved in patient care. In this way patient problems can be carefully analyzed by each member of the team of physicians. It further encourages physicians and health care providers to focus on patients' problems.

Medical education as a whole needs to be carefully monitored. There is an urgent need for defining criteria to assess the quality of medical education. Board scores and in-training examinations are not in themselves sufficient.

The logistic problems associated with the implementation of regulations such as these must continue to be addressed with particular reference to the efficient use of manpower and the development of schedules for supervision. Financial considerations need to be carefully considered so that maximum

TABLE I. JULY 1990 SURVEY OF 30 FACULTY MEMBERS 12 MONTHS SINCE IMPLEMENTATION

	Improved %	*Unchanged %*	*Impaired %*
Commitment to patient care	60	40	0
Continuity and quality of patient care	75	15	10
Theoretical knowledge base	10	80	10
Surgical expertise	0	60	40
Clinical experience	25	75	0
Supervision by faculty	80	20	0
Resident attendance at conferences	75	25	0
Abilities of residents at end of program	10	65	25
Faculty satisfaction with program	25	75	0

TABLE II. APRIL 1990 SURVEY OF RESIDENTS' EXPERIENCES 9 MONTHS SINCE IMPLEMENTATION (POSTGRADUATE YEARS 2, 3, AND 4)

	Improved %	*Unchanged %*	*Impaired %*
Surgical experience	14	72	14
Obstetrical experience	47	53	0
Ambulatory care	7	35	58
Continuity of care	40	46	14
Reading and studying	14	86	0
Attendance at conferences	93	7	0
Satisfaction with program	86	14	0
Effect on personal life	86	14	0
Quality of patient care	28	72	0

use of available funds remains a high priority. Increased costs are inevitable but must be accepted if the underlying principle is clear.

Medical education in the 21st century will need to adapt to the changing environment of the practice of medicine. It is imperative that the educational process at both postgraduate and undergraduate levels responds to the ever changing demands of the medical profession as a whole. An improved working environment for residents facilitates the educational experience and the capability for learning resulting in enhancement of patient care making the training period more enjoyable.

In summary, I have presented the view of the Department of Obstetrics and Gynecology at the Albert Einstein College of Medicine with regard to these changes and how this department has initiated and implemented the new regulations. I believe that there is a fundamental alteration in the principles and psychology of graduate medical education, and it remains to be seen what impact this will have on the rest of the United States and in the next century.